Date: Sat, 10 Jul 93 04:30:02 PDT
From: Packet-Radio Mailing List and Newsgroup <packet-radio@ucsd.edu>
Errors-To: Packet-Radio-Errors@UCSD.Edu
Reply-To: Packet-Radio@UCSD.Edu
Precedence: Bulk
Subject: Packet-Radio Digest V93 #203
To: packet-radio

Packet-Radio Digest   Sat, 10 Jul 93   Volume 93 : Issue 203

Today's Topics:
advanced packet radio in Japan
commercial use of packet (2 msgs)
Help: KPC3 & com2
Help with Packet and the HP95LX
Missing docs, want speedup [MFJ-1270B]
NET/Mac and IM/Mac
NET/ROM etc. protocols?
Packet-Radio Digest V93 #201
RTTY DECODING

Send Replies or notes for publication to: <Packet-Radio@UCSD.Edu>
Send subscription requests to: <Packet-Radio-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Packet-Radio Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/packet-radio".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 9 Jul 1993 22:15:06 GMT
From: pa.dec.com!nntpd2.cxo.dec.com!nntpd.lkg.dec.com!ryn.mro4.dec.com!
cache.enet.dec.com!gold@decwrl.dec.com
Subject: advanced packet radio in Japan
To: packet-radio@ucsd.edu

In article <4614.6379@jf7wex.sdj.miyagi.prug.or.jp>,
jf7wex@jf7wex.sdj.miyagi.prug.or.jp (Ryuji Suzuki) writes...
>Please allow me to write about our plans to experiment high speed digital
>communication over radio in Japan.
>
>TNC
> We have a type of TNC named "TNC-Z", developed by Masaaki YONEZAWA
> (JE1WAZ), using HD64180S(HITACHI), dedicated to kiss-mode.

> It can handle up to 2Mbps differntial Manchester symbol (and NRZ/NRZI)
> at radio port. Because it aims to be used for multi mode of radio,
> only a outer MODEM is available.
> PCB and diagram of TNC-Z have already distributed. Size of PCB is
> 4 x 3+3/8 (in inch).
>
>FSK
> We have already experimented 64Kbps at 1200MHz for several times.
> At that time, a pair of IC-1200 is used for full-duplex.
> (It is hard to work for the RIG as both TX and RX concurrently.)
> The modulation was done directly at the VCO of the TX-RIG,
> (Because of PLL and not scrambled, we concluded to use that symbol.)
> and a small external circuit, using MC-3356P(MOTOROLA), which converts
> IF of IC-1200 (136MHz) below into 10.7MHz, filter it, and shape
> detected signal, for demodulation was prepared.
> The book "High-speed Packet TNC" which describes V.27ter, V.29,
> 64Kbps FSK, and already distributed PCB at that time for them
> has published with genny.or.jp, but sorry for only Japanaese edition
> is available.
>
> RF part was further improved to be independent component
> separately from up-converter. The circuit and PCB, MC-2833P
> (MOTOROLA) as TX-part, the same 3356P added local osc
> (crystal controlled) and RF amp in as RX,
> also including PTT(RTS) control and voltage regulator,
> had developed by me.
> This RF PCB will be orderd soon. Size of this PCB is
> 4+3/4 x 3 (in inch).
>
> No filter was used at that experiments because digital filter was not
> in time. Now, some prototypes have already built and evaluated.
> All digital filters had developed by Shin'ichi KANNO, JN1JDZ.
> He is selecting from among them and turning it to practical use.
> Odering its PCB is in progress.
>
>PSK (being planned out.)
> Some kinds of suitable chip, dedicated to demodulate QPSK,
> are supplyed for consumer products. A kind is for NICAM, about 750Kbps.
> (728Kbps or 768Kbps??) Another is for also PCM audio channels of satelite
> broadcasting, 2.048Mbps.
> I found chips supplyed from TOSHIBA for each use, and from MICRONAS
> (Finnish company) for NICAM.
>
> Problem still lies in modulating. I know some groups using
> looking-up EPROM and D/A, and existence of variously applicable chips,
> useful for this purpose, from RF MICRO DEVICES.
>
> I think demodulator must be composed cheap and simply, but modulator

> is up to how construct. In case of using the RF-2802 or 2402,
> containing 90 degrees hybrid phase splitter and two balanced mixers,
> it is easy to do so. And the catalog says "Low Cost".
> I am interested in using them. Anyone used? How much did it cost?
>
>Protocol and software
> We simultaniously reserch broadcasting-type protocol for scattering
> USENET compatible news, amprnet-JA, over radio.
>
>Ryuji Suzuki, JF7WEX.
>Packet Radio User's Group, PRUG

Date: Fri, 9 Jul 93 17:20:54 GMT
From: mnemosyne.cs.du.edu!nyx!mwgordon@uunet.uu.net
Subject: commercial use of packet
To: packet-radio@ucsd.edu

>> I'm trying to locate information on how packet radio can be used in a non-
>> amateur-radio (commercial) setting. Are there any educational
>> institutions or businesses which use packet radio for computer
>> service/data delivery?

I recently read somewhere that the FAA is using PK-88's in some of their towers around the country. (Oh my gosh, does that mean that there may be some airborne packet going on? Geez. Radios and TNCs and computers in planes!!! Oh my gosh, they must just be droping like flies from all the 'interference'!!!! hehehe)

Or maybe they're just for tower-to-tower comms. (not as much fun)

Also, the local NOAA weather office has put in a TNC for severe weather notices (sent as CQs or unprotos.).   This is on amateur bands by one of the hams at that NOAA office.

Mike Gordon   N9LOI mwgordon@nyx.cs.du.edu

Date: Fri, 9 Jul 1993 20:03:48 GMT
From: agate!howland.reston.ans.net!sol.ctr.columbia.edu!news.kei.com!das.wang.com!wang!dbushong@ames.arpa
Subject: commercial use of packet
To: packet-radio@ucsd.edu

dave@llondel.demon.co.uk (David Hough) writes:

>In article <9307071310.AA22458@metro.mccneb.edu> pmarsh@metro.mccneb.EDU writes:
>>
>>
>>
>> I'm trying to locate information on how packet radio can be used in a non-
>> amateur-radio (commercial) setting. Are there any educational
>> institutions or businesses which use packet radio for computer
>> service/data delivery?
>>
>I think you will find that British Gas use packet TNCs for some of their
>telemetry stuff. They are slightly different to an amateur TNC in that the
>modem is an FFSK one but apart from that, I would guess it is basically
>the same. I use the same type of TNC here (and at a few remote node sites)
>so they can't be *that* different.

>Dave

I helped set up a VHF/UHF/HF network for the Philippine Department of
Health a few years back. There are TNCs available that have encryption
options for non-amateur use, also. I think AEA makes them.

Dave
--
Dave Bushong, Wang Laboratories, Inc.   Amateur Radio Callsign KZ1O
Project Leader, Recognition products   kz1o@n0ary.#noca.ca.na
Internet: dbushong@wang.com

Date: Fri, 9 Jul 1993 15:00:08 GMT
From: usc!howland.reston.ans.net!noc.near.net!squam.banyan.com!banyan.com!
dts@network.UCSD.EDU
Subject: Help: KPC3 & com2
To: packet-radio@ucsd.edu

In article <1993Jul9.023552.2266@n5ial.mythical.com>, jim@n5ial.mythical.com (Jim
Graham) writes:
|> In article <742011487.AA03362@psybbs.durham.nc.us>
|> Kim.C..Callis%f1.n3641.z1@psybbs.durham.nc.us (Kim C. Callis) writes:
|>
|> >Todd W. Carter (tcarter@access.digex.net) wrote:
|> >: I have a KPC-3 that I am attempting to connect to my system. I have an
|> >: internal modem that uses com2 and an external port on com2 that I have
|> >: connected to the KPC-3.
|> >
|> >: Am I allowed to use the external port even if there's an internal board
|> >: that uses it (but obviously not at the same time)? My TNC program
|> >: (KaGold) won't recognize the connection and says there's a communications

|> >: problem.
|>
|> To put it simply, you have a problem. But, I believe you can probably also
|> fix this problem. :-) Read on....
|>
|> >Well, I am going to assume for the sake of arguement that you are using
|> >COM1 for a mouse or something like that.
|>
|> We'll keep this assumption---the fact that both serial ports (the actual
|> serial port and the one on the internal modem) are both set for com2 more
|> or less implies that something else is on com1 (or at least, uses IRQ3).
|>
|> >Now being that you are using an
|> >internal modem, there should be some jumpers on it to switch the com
|> >port. What you will want to do is switch it to com 4 (because if you are
|> >using something on COM1 like a mouse, the IRQ which it shares with COM3
|> >will make the operation of one or the other [mouse and/or modem]
|> >non-existant!).
|>
|> Sorry, but this is bad advice (for more details, see a recent, similar
|> thread on comp.dcom.modems, or e-mail me for the info). Basically, to put
|> it simply, no two devices may share the same interrupt. There are specific
|> cases where I/O cards are *DESIGNED* to get around this, but that's another
|> story (and different hardware).
|>
|> In the ``normal'' configurations, COM1 and COM3 both share IRQ4, while COM2
|> and COM4 both share IRQ3. So, if you have a serial port on both COM1 and
|> COM2, you can't use IRQ4 and IRQ3 for anything else....meaning, assuming you
|> do have something on COM1, you can't use COM3, and if you have something on
|> COM2 (as you've said you do), you can't use COM4. This, of course, assumes
|> that you use the ``normal'' interrupt/address combinations for COM3 and/or
|> COM4.
|>
|> Let's take a second look at what you have, and what you have to work with.
|> Since most (common) serial ports deal only with the lower IRQ lines (usually
|> only 3, 4, and 6), we'll only look at IRQ 2--7. Here's what the normal
|> assignments are:
|>
|>   IRQ2: *reserved* (AT and above --- free on XT)

IRQ2 on the bus IS USABLE on all IBM AT and 386 machines. On the bus it is IRQ2.
On the software side, it is referred to as IRQ9. A technical reference manual
will point you to the proper location in low memeory for where IRQ9's vector is
stored. Most software DOES support the use of IRQ2/9, including the microsoft
mouse busmouse board/drivers, etc.

What is really needed in the market is a board that allows individual assignments
of IRQ's 2,3,4,5,7,10,11,12,13,14,15 for EACH of 2 or 4 serial ports. I have done

a lot of searching and have come up empty. I may have to design one.

```
|>    IRQ3:  COM2 *or* COM4
|>    IRQ4:  COM1 *or* COM3
|>    IRQ5:  LPT1
|>    IRQ6:  floppy drive
|>    IRQ7:  LPT2 (if it exists)
|>
|> You might take a look at what devices you have, and what interrupts are
|> available/required by each.  You can probably re-arrange things to make
|> your system happy (e.g., one thing that you can usually do without problems
|> is to disable the interrupts on your printer port and then use that
|> interrupt line for something else).
|>
|> E-mail me with the details of your system configuration, and we'll take
|> it from there.
|>    --jim
|>
|> --
|> #include <std_disclaimer.h>                               73 DE N5IAL (/4)
|> ------------------------------------------------------------------------------
|> INTERNET: jim@n5ial.mythical.com  |  j.graham@ieee.org     ICBM: 30.23N 86.32W
|> AMATEUR RADIO:  (packet station temporarily offline)       AMTOR SELCAL: NIAL
|> ------------------------------------------------------------------------------
|> E-mail me for information about KAMterm (host mode for Kantronics TNCs).
|>

--
-----------------------------------------------------------------------
Daniel Senie                 Internet:     dts@questar.banyan.com
Banyan Systems, Inc.         Compuserve:   74176,1347
508-898-1188                 Packet Radio: N1JEB@KA1SRD.MA

------------------------------
```

Date: 9 Jul 1993 16:14:00 GMT
From: usc!howland.reston.ans.net!noc.near.net!jericho.mc.com!fugu!levine@network.UCSD.EDU
Subject: Help with Packet and the HP95LX
To: packet-radio@ucsd.edu

In article 1@ducvax.auburn.edu, anderjh@ducvax.auburn.edu () writes:

```
>I am interested in getting a tnc soon but still don't know what to look for
>after reading the faq.  Specifically, what models are common, and how much
>they cost.  I am also thinking of trying to hook up a Hewlett Packard 95LX
>to the tnc (1 meg version).  Has anyone done this?  The HP95 is a palmtop
>computer running DOS 3.31.  It has a serial port and I have successfully
```

>hooked it up to a modem. I have a Kenwood TH-28A HT. Is this radio acceptable
>for packet? I am looking for my callsign any day now (took the technician
>test on May 16).
>
>   Jamie Anderson (ANDERJH@DUCVAX.AUBURN.EDU)
>

Jamie, I have used my HP95 on packet and it works fine. I purchased the serial interface kit from HP which includes a bunch of connectors (DB9, DB25, etc) that have a RJ11 type female jack on them. There is another cable provided with the small 4 pin connector for the HP on one end, and a RJ11 male on the other end to plug into any of the standard connectors provided. I use it with a KPC3 fine at 9600 baud (HP --> KPC speed). Makes life simple and reliable! If you do use the modem cable, remember it is a NULL modem connector so you will need to use another NULL modem adapter to re-reverse the wires. They ship the modem cable as a NULL modem cable since people use it for HP95 <--> PC connection.
73 Bob
KD1GG

Date: 10 Jul 1993 03:15:31 GMT
From: usc!howland.reston.ans.net!darwin.sura.net!news-feed-2.peachnet.edu!concert!inxs.concert.net!banjo.concert.net!abc@network.UCSD.EDU
Subject: Missing docs, want speedup [MFJ-1270B]
To: packet-radio@ucsd.edu

Greetings. Having just moved from one QTH to another, I find myself missing my documentation for my MFJ 1270b. I have come into posession of the higher speed CPU and SIO needed for "high-speed" operation and have them installed, but don't have a clue as to which jumper I need to move to change the speed.

Any help would be greatly appreciated.

-abc
--
```
`Whatever America hopes to bring to pass in  |  Alan Clegg -- CONCERT Network
 the world must first come to pass in the    |  MCNC Center for Communications
 heart of America.' Dwight D. Eisenhower     |  Research Triangle Park, NC
```

Date: 9 Jul 93 10:10:48 GMT
From: news-mail-gateway@ucsd.edu
Subject: NET/Mac and IM/Mac

To: packet-radio@ucsd.edu

Hello all,

Over the last couple of weeks I have seen a number of questions on where to get the latest versions of both NET/Mac and IM/Mac...

Maybe I should tell you how to get those, and maybe tell you even a little more than just that...

Ivo ON1XK, the 'father' of IM/Mac (Ivo's Mailer for the Macintosh) has no access to the internet (yet), so he cannot send out newer versions of his famous program. He has asked me to take care of that. Since I myself cannot FTP to the internet (yet, this may be solved by the end of the year) I can only send out newer versions over e-mail, in StuffIt BinHexed format.

I maintain a distributionlist for both IM/Mac and NET/Mac, so if you don't know where to download the software from, just leave me a note and I will send it over to you, or put you on the distributionlist, whichever you like.

Please indicate: on which of the lists (or both) you want to be
and: if your mailer will accept binhex files, which are larger than 32K
if you have one: you hamradio callsign

If you want to e-mail to Ivo or myself... Our mail-addresses are:

on1xk@igg.tno.nl   and   pa2aga@igg.tno.nl

Our holiday-schedule:

on1xk	from July 10 until august 27
pa2aga	from august 11 until august 31

The latest versions are:

NET/Mac 2.3.24
IM/Mac 1.0b27n

73 de Adam PA2AGA

Date: Fri, 9 Jul 93 21:14:58 GMT
From: usc!cs.utexas.edu!swrinde!gatech!news.byu.edu!cwis.isu.edu!fcom.cc.utah.edu!dave@network.UCSD.EDU
Subject: NET/ROM etc. protocols?
To: packet-radio@ucsd.edu

Paul Turvey (paul@topsy.demon.co.uk) wrote:
: In article <1993Jul7.204331.3886@fcom.cc.utah.edu> dave@fcom.cc.utah.edu writes:

: >I am planning on implementing my own software system for packet radio.
: >I have ordered the AX.25 spec from ARRL. Where Can I get the NET/ROM
: >(and/or KA-Node, TheNet or others) specifications? As a last resort
: >I guess I could take apart NOS, but I would rather work from specifications.
: >
: >Thanks,
: >
: Why bother? Apart from infringing the Copyright on KA-Node and Net/Rom,
: you're gonna waste *alot* of time in coding something suitable. Blow a copy
: of TheNet X1H (including tcp/ip auto routing) and leave the rest to the
: programmers.

I want to bother because I am not using a politically correct computer and I also happen to be a programmer. I would like to write a networking package that fits in with the style of this machine, which NOS doesn't. Since NOS implements NET/ROM I assumed there would not be a problem (and I think they only get protection if they patent their protocol anyway). I can do without the KA-Node if kantronics is going to be upset about it. NET/ROM appears to have been cloned already anyway though so I don't see that there should be any problem.

Basically, I want to put the TNC in KISS mode and have my computer run everything. I plan on implementing a BBS, and other features common in the packet world would be nice as well. I already have TCP/IP and all that remains is to write an AX.25 driver for it.

Actually, I would like to know about the legalities involved as I think there are enough incompatable routing protocols around already. While I will be primarily using TCP/IP, there is a lot of NET/ROM in the area, and it would be nice to interface with it.

```
: 73
: --
:   ==========================================================================
:   | Paul Turvey  "Modestly, unique"       Amateur: g1pjj@gb7zaa.#34.uk.eu  |
:   | Email: paul@topsy.demon.co.uk         Amprnet: paul@g1pjj.ampr.org     |
:   ==========================================================================
```

--
dave@csulx.weber.edu (sig by ByteWatchers & TransmitFast)

Date: 9 Jul 1993 14:01:57 GMT
From: nothing.ucsd.edu!brian@network.UCSD.EDU
Subject: Packet-Radio Digest V93 #201
To: packet-radio@ucsd.edu

Someone has set up a mail loop. I'll try to see what I can do about it.

Why can't incompetent system administrators get a job sanitizing telephones or something more suited to their skill level?
     - Brian

Date: Fri, 9 Jul 1993 14:55:56 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!noc.near.net!squam.banyan.com!banyan.com!dts@network.UCSD.EDU
Subject: RTTY DECODING
To: packet-radio@ucsd.edu

In article <742093147snx@llondel.demon.co.uk>, dave@llondel.demon.co.uk (David Hough) writes:
|> In article <742008561.AA05767@csource.oz.au>
David.Simpson@f393.n632.z3.fidonet.org (David Simpson) writes:
|> > I AM USING MFJ1278B WITH IBM 486SX, AND HAVING PROBLEMS DECODING
|> > COMMERCIAL RTTY..ANY CLUES PLEASE?
|> >
|> >
|> > * Origin: Spectrum Radio - Melbourne's All Band Radio BBS (3:632/393.0)
|> >
|> Are you using the correct tone shift? I think some commercial RTTY uses
|> a 425Hz shift. You also need to check whether it is running 45 or 50baud
|> because that will screw your reception as well. Failing that, it might be
|> scrambled in some way...
|>
|> Dave

Amateur RTTY uses 170Hz shift, commercial uses 850 mostly. There are other odd shifts in use as well...

```
|>
|> *****************************************************************************
|> * G4WRW @ GB7WRW.#41.GBR.EU AX25     *    You think *you* have problems?    *
|> * dave@llondel.demon.co.uk  Internet *     What do you do if you *are*      *
|> * g4wrw@g4wrw.ampr.org      Amprnet  *      a manically depressed robot??   *
|> *****************************************************************************

--
-----------------------------------------------------------------------
Daniel Senie                 Internet:     dts@questar.banyan.com
Banyan Systems, Inc.         Compuserve:   74176,1347
508-898-1188                 Packet Radio: N1JEB@KA1SRD.MA

------------------------------

End of Packet-Radio Digest V93 #203
******************************
```